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FINAL REPORT

"A Search for Stellar Wind X-Ray Absorption in O Stars"

NASA Purchase Order #: S-14645-F

Submitted to:

Contracting Officer
Code 286
NASA/Goddard Space Flight Center
Greenbelt, MD 20771

Submitted by:

Applied Research Corporation
8201 Corporate Drive
Landover, MD 20785
(301)459-8833

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CONTRACT: S-14645-F (ARC # 1277)

TITLE: A Search for Stellar Wind X-Ray Absorption in O Stars

PI: Dr. Wayne L. Waldron (Applied Research Corporation)

CoI: Dr. Mike F. Corcoran (USRA/GSFC)

SUBJECT: Final Report

START DATE: February 4, 1994

DELIVERY DATE: 18 Months from start of Contract

SCIENCE OBJECTIVE:

Under the ASCA AO-1 GO Program, an effective exposure time of 21 ksec was obtained to investigate the X-ray emission from the O8 III ((f)) star, Lambda Ori. The observation was accomplished on March 12, 1994. The main purpose of the observation was spectroscopy to search for evidence of X-ray line emission throughout the ASCA SIS bandpass, and stellar wind absorption at X-ray energies below 1 keV.

The results of our ASCA SIS analysis have been published in "The Astrophysical Journal". For further details of our investigation, we refer the reader to this paper (see enclosure). The publication includes the results from this study as well as results from another similar study performed by the PI and CoI (see report on NASA contract # S-30916-F).

PUBLICATION:

"ASCA Solid State Imaging Spectrometer Observations of O Stars", Corcoran, M. F., Waldron, W. L., MacFarlane, J. J., Chen, W., Pollock, A. M. T., Torii, K., Kitamoto, K., Miura, N., Egoshi, M., & Ohno, Y. 1994, ApJ, 436, L95